University of Illinois
c/o Grants and Contracts, 109 Coble Hall
Champaign, IL 61820

Title: “Teaching with Digital Content—Describing, Finding, and Using Digital Cultural Heritage Materials”

Abstract

Teaching with Digital Content--Describing, Finding and Using Digital Cultural Heritage Materials

Using digitized primary source materials involves fundamental shifts in the service and teaching methods of curators, librarians, and teachers, regardless of their audiences. This proposal seeks to develop a successful model program to integrate digital primary source materials into K-12 curriculum and assignments, as well as into the educational programs of museums and libraries. We propose to bring together a group of libraries and museums and their digital content with K-12 teachers, to identify reliable methods of integrating this content into teaching units and learning guides, to demonstrate innovative technology-based applications using these materials, and to evaluate and report on their effectiveness. The primary areas of focus will include the following steps:

- Museums and libraries contribute digitized primary source materials and accompanying metadata in Dublin Core format to an online database and search engine. This content will broaden the scope of subject coverage in an existing database, and will provide valuable ties with the state-mandated Learning Standards for K-12 institutions in Illinois, with work on transferring that model to other states.

- Introduce a broad group of teachers to digital cultural heritage materials by partnering with various outreach programs, such as pre-service training, and the Moveable Feast program (sponsored by Microsoft) in the University of Illinois College of Education, which provides technology training for K-12 teachers around the state (http://feast.ed.uiuc.edu). Opportunities for museum and library partners in "Teaching with Digital Content" to participate in the technology training will also be arranged.

- Provide concept-based training for teachers, curators and librarians in the use of visual materials through the Visual Thinking Strategies program (http://www.vue.org). In museums, VTS helps beginner viewers to grow in both confidence and ability to derive meaning from art. In schools, VTS is a sequenced curriculum of art images, employing careful looking and facilitated discussion. We plan to extend the VTS curriculum beyond the analysis of art images to include the analysis of digitized historical artifacts and documents.

- Museums and libraries assist teachers by placing digital objects in their historical context by utilizing innovative technologies to present this information and by identifying and helping teachers locate and utilize other digital resources that are freely accessible in electronic form.

- Promote a continuing channel of communication through the use of threaded email discussion software, which serves as a virtual meeting place for interaction among the museum curators, librarians, and teachers.

Narrative

Background and Project Goals

Access to digital information through the Internet has significantly increased the virtual audience for museums and libraries, and it has had a profound impact on the ways in which our children are taught. Therefore, educators and information professionals world-wide are grappling with the challenge of developing educational methods that make the best use of the Web, as well as the resources from our collections that are Web-accessible. The challenge, however, as noted by Juniper and others is that digitally-based learning requires educators, more so than children, to acquire new skills and develop new teaching approaches.[1] Similarly, this challenge requires that museums and libraries develop innovative ways of presenting access to digitized primary source materials. A further issue that this project seeks to address is the development of sound teaching approaches using digital primary source materials. A recent study of the Education Network of Australia emphasized the points that "good pedagogy approaches" were necessary to shape the use of digital resources and that children's use of digital technology needed to be guided by its relationship to specific learning goals and integration into specific learning environments.[2]

The overall goal of the proposed project is to bring together teachers, museums, and libraries to experiment with and identify the most effective methods for using digitized primary source materials in the classroom, working with state-mandated learning standards. We propose to accomplish this goal by 1) providing innovative training opportunities in the areas of technology tools and visual literacy; 2) assisting teachers in the transition of curriculum to include digital resources; 3) providing easy access to a searchable database of digitized materials from a number of cultural heritage institutions; 4) creating a virtual community for interaction between schools, museums and libraries through the use of innovative Web technologies; and 5) evaluating the resulting outcomes of targeted training and easy access to digitized materials, as well as membership in a virtual community. The fundamental goals and related objectives, along with expected and measurable outcomes, are stated here:

Goal 1: Create a virtual community for interaction between schools, museums, and teachers.
Objective 1: Implement a threaded email discussion board, such as Webboard™.
Objective 2: Develop and maintain an interactive project Web site for schools to communicate directly with museums and libraries, regarding their curriculum materials and collections.
Expected Outcome: We will evaluate the impact of electronic communication among participants from broadly-based institutions. We expect communication between museum and library colleagues and K-12 institutions will be increased significantly.

Goal 2: Provide innovative training opportunities for educators, curators, and librarians.
Objective 1: Technology Training Workshop—**Moveable Feast**.
Objective 2: Visual Literacy Training—**Visual Thinking Strategies** (VTS).
Expected Outcome: We expect project participants to utilize new technologies in innovative ways and to integrate VTS concepts into instructional material design.

Goal 3: Assist teachers in curriculum transition to include digital resources.
Objective 1: Curators and librarians develop and make available educational materials using primary resources.
Objective 2: Teachers review existing curriculum units to determine how to supplement with digitized primary source materials.
Objective 3: Teachers outline and create new curriculum materials utilizing digitized primary source materials, supplementing existing materials.
Expected Outcome: Development and sharing of new innovative curriculum materials in electronic format.

---

[1] Juniper, D., Pedagogy - Shifting from Paper to Digitally Based Learning, available from http://www.eddirect.com/associations/acea/conference/vc/aceavirt/juniper.html, last viewed March 23, 2000

[2] Downes, T., Arthur, L., Beecher, B., Kemp, L., Appropriate EdNA Services for Children Eight Years and Younger, Report commissioned by the Education Network Australia Online Pathways Project, and Education.Au Limited, June 1999. Available at http://www.edna.edu.au/edna/publish/system/ecreport/. Last viewed March 23, 2000.

Goal 4: Provide access to a searchable database of cultural heritage materials from a variety of institutions.
Objective 1: Museums and libraries contribute digitized material and standardized metadata plus interpretive information to a shared database.
Objective 2: Provide basic training in the use of Dublin Core metadata elements for project participants.
Expected Outcome: Database of over 10,000 searchable digital objects that can be easily integrated into teaching materials.

Goal 5: Evaluate the outcomes of targeted training and easy access to digitized materials and metadata, and membership in a virtual community.
Objective 1: Qualitative evaluation will assess the degree of integration of VTS and technology training into innovative curriculum development.
Objective 2: Quantitative evaluation of the use of the database – review one-time and repeated uses and users; identify patterns of use among users and across institutions.
Objective 3: Quantitative and qualitative evaluation of the use and usefulness of the virtual community.
Expected Outcome: Recommendations from this formative research can be used as a model for building a project on a national scale.

With a prior IMLS award, the *Digital Cultural Heritage Community Project (DCHC)* developed approaches that enabled East Central Illinois local area museums, libraries and archives to create and provide access to digital information across diverse data structures. Museums and libraries employed strategies such as identifying materials in their collections that specifically addressed the learning objectives in the Illinois State Board of Education Learning Standards, identified general categories of indexing or cataloging information to describe their materials, and tested the viability of this information to meet the teaching needs of 3rd through 5th grade elementary school classrooms. The DCHC project has explored the basic issues involved in making digital materials available on the Internet and in the classroom by using a clear progression of tasks that build on one another. It enabled the construction of a simple, technical and collaborative foundation from which it will now be possible to launch *Teaching with Digital Content.*

Jones, et. al.[3] at Cornell University have carried out extensive evaluation studies of prototype efforts to build digital collections in museums and libraries. They have three main findings – (1) metadata, copyright and intellectual property issues, (2) collection maintenance and access, and (3) usability findings (use of collections in formal and informal educational settings) which are the main issues that should be considered in digital collection efforts. We already have experience of the first in the DCHC, and are making a concerted effort in this new proposal to cover the other two in this project by focusing on new ways of aggregating digital objects, and by setting the stage for intensive use of these collections.

Teaching with Digital Content proposes to focus primarily on developing educational outreach and cultivating a shared network of expertise across a diverse group of libraries and accredited museums. The museum and library partners in the project include a total of ten institutions:

Chicago Public Library, http://www.chipublib.org
Early American Museum, http://node-03.advancenet.net/~early/
Illinois Heritage Association, http://illinoisheritage.prairienet.org/
Illinois State Library, http://www.sos.state.il.us/depts/library/isl_home.html
Lakeview Museum of Arts and Sciences, http://www.lakeview-museum.org
Lincoln Home National Historic Site, http://www.nps.gov/liho
McLean County Museum of History, http://www.McHistory.org
Museum of Science and Industry, http://www.msichicago.org
Mystic Seaport, http://www.mysticseaport.org
Rare Book and Special Collections Library, http://www.library.uiuc.edu/rbx

Through this project, we seek to test the effectiveness of introducing several critical components in the process of integrating primary source material into K-12 classroom teaching, including: 1) the use of innovative visual literacy teaching methods in the classroom; 2) a concentrated technology training component that links the use of digital

[3] Jones, M.L.W., Gay, G.K., Rieger, R., Project Soup : Comparing Evaluations of Digital Collection Efforts, D-Lib Magazine, 5(11), November 1999, available at http://www.dlib.org/dlib/november99/11jones.htm.

technologies with the creation of electronic curriculum materials that are based on state Learning Standards; 3) easy access to a database that contains digitized primary source materials and their descriptive metadata that has been aggregated from a number of diverse museums and libraries; and 4) support (both technical and human) for consistent communication between schools and museums and libraries that provides a continual link between the schools and the cultural heritage institutions.

National Impact

Teaching with Digital Content is unique because it will result in direct educational benefit—for four Illinois school districts, (Bloomington Public Schools District #87, Champaign School District Unit 4, Springfield Public School - Lincoln, Urbana School District #116) with the potential for reaching thousands of students in classrooms around the state of Illinois, as well as museum and library education programs. It will articulate a model for educational outreach programs that bring K-12 institutions together with the technology and collections of significant museums and libraries. It will also represent a model for equality of access to digital resources that supports state-mandated educational curriculum goals. The use of this technology will enable children in underserved rural and urban communities to have free access to primary resource materials.

Teachers from four school districts, curators, and librarians have committed a portion of their time to work together over the two-year project period, utilizing digitized primary source materials from the museums and libraries to move current curriculum materials into electronic format, and to create new curriculum materials that exist solely in electronic form. We have targeted the concerns of national and international significance, expressed by Juniper and Downes in the earlier cited research, that educators need exposure to new teaching approaches in order to integrate digital materials into the classroom effectively. Further, we seek to address the concern expressed recently by William Ferris, Chairman of the National Endowment for Humanities in his statement before the U. S. Congress Appropriations Subcommittee, that "four out of every five teachers feel they do not have adequate training in the humanities."[4] "Teaching with Digital Content" has the potential to bridge the existing gap in humanities exposure for K-12 teachers. Through our collaboration with the University of Illinois College of Education, we will be able to involve in the "Teaching with Digital Content" program both undergraduate and graduate students who are obtaining their teacher certification (pre-service teachers).

This project brings together a team of broad-based museums and libraries, ranging from small to large, urban to rural. The intention in bringing together diverse cultural heritage institutions is to explore issues of scale that arise as the participants interact with the digital collections that have been created. We will explore the use of a national standard metadata format (Dublin Core metadata elements) across institutions, and will set up an agreement for sharing digital objects and their related metadata. By including an institution from outside of Illinois (Mystic Seaport Museum, Connecticut), we also seek to transfer the framework of the project beyond the scope of one state. Similarly, we seek to test the viability of teaching methods and digital content use with teachers and students in K-12 classrooms in a combination of locations—rural and metropolitan—across the state of Illinois. Another unique component involves pre-service teachers in developing digitally-based curricula before they are placed in permanent positions in the classrooms[5]. A high percentage of Illinois-educated teachers remain in Illinois. Their early involvement in this type of innovative project will ensure that the use of digitized primary resource materials will be assimilated into curriculum planning within a shorter period of time than with other top-down approaches. Finally, this project embraces an innovative approach to teaching with digital information—*Visual Thinking Strategies*—a program that will provide educators with the guidance to incorporate visual evaluation skills into their own and their students' teaching and learning styles.

Adaptability

Teaching with Digital Content seeks to initiate and test the viability of the virtual community, an innovative approach for museums, libraries and schools to collaborate in successful educational outreach programs. Further, it proposes to carry out formative research on the effectiveness of new methods for teaching with digital content, to evaluate their outcomes, and to report the results of this investigation to the museum, library, and educational communities. As such, this program will contribute to the formative research and practice that will enable us to better understand what is necessary to replicate both the collaboration and the programmatic components of this project on a national scale.

---

[4] NCC Washington Update, Vol 6, #9, March 23, 2000 by Page Putnam Miller, Director of the National Coordinating Committee for the Promotion of History pagem@capaccess.org. "Head of NEH Testifies On FY 2001 Budget."

[5] Thurston, C.O., Stuve, M.J., Pianfetti, E.S., Thomas, R., Multiple Means of Support: The Role of the Office of Educational Technology in Faculty Development, Proc. SITE 98: Society for Information Technology & Teacher Education International Conference (9th, Washington, DC, March 10-14, 1998).

Design

This project brings together a selected group of librarians, curators, and teachers from school districts in Illinois, all of whom have taken leadership roles in providing access to digitized information, and have expressed a strong interest in sharing digital content and utilizing these materials as they enhance and expand their instructional curriculum materials. As such, the primary goals of the project are to put digitized primary source materials at teachers' fingertips, and to enable the use of these materials in the classroom. The project is designed to support these two main goals, and the objectives, as stated in the Background and Project Goals, delineate a clear progression of activities that build on one another to achieve these goals.

Digital Content

This project focuses on the use of digital content rather than the digitization of that content. Museums and libraries will identify materials that they have either digitized or intend to digitize, as part of their institutional mission, that have historical significance. As part of the selection process, they will review Illinois Learning Standards goals for Social Science, and will determine links between these learning goals and the materials that they intend to contribute to the online database. The Dublin Core metadata element set will be used as the common format for presenting the descriptions of the digital objects in the online database. In addition to this information, museums and libraries will provide interpretive and contextual information about the digitized primary source materials in the database. Participating institutions may contribute materials either through a Web-accessible indexing template, or through batch processing. As Besser[6] indicates, the lack of comprehensive content can make a database extremely problematic for coursework purposes. Therefore, it is intended that the digitized content be processed and made available by the end of the first year, in order to allocate the second year of the project almost exclusively to the use of the materials in the online database.

Educational Components

Through the use of digitized primary source materials, we seek to help teachers in all settings enhance their curricula. In addition to helping alleviate boredom in the classroom, research[7] shows that the use of primary source materials leads to more advanced level thinking and promotes the development of interpretive and analytical skills. Using different primary source materials, students can compare and contrast evidence, learn to separate fact from opinion, and support their inferences and conclusions.[8]

Visual Thinking Strategies

Art museum educator Linda Duke will conduct a series of workshops that introduce teachers, museum staff and librarians participating in this project to an innovative new teaching method--*Visual Thinking Strategies* (VTS). The VTS approach uses works of art as the focus for learner-centered class discussions that are facilitated by the teacher or other leader. VTS promotes the use of interpretation and evidence gathering to describe visual artifacts and content. Based on twenty-five years of research by cognitive psychologist Abigail Housen and developed into an experimental curriculum in partnership with art educator Philip Yenawine[9], the VTS have been shown to develop many skills which students can apply in both art and non-art domains:

- careful observation of objects and images;
- the ability to articulate an idea and present a logical argument for it, using visual evidence;
- the ability to listen to others, value their ideas, sometimes changing one's own mind in light of new evidence;
- critical and creative thinking, greater awareness of one's own learning process;
- the ability to use expert sources effectively and confidently.

---

[6] Besser, H., Digital Image Distribution: A Study of Costs and Uses, D-Lib Magazine, 5(10), October 1999, available at http://www.dlib.org/dlib/october99/10besser.htm.

[7] West, Jean M., Ed. *The Immigrant Experience, 1840-1890. Volume I. Teaching with Primary Sources Series*. Cobblestone Publishing Company, NH, 1996. See also Otten, Evelyn Holt, *Using Primary Sources in the Primary Grades*. ERIC Digest, Office of Educational Research and Improvement, Washington, DC, 1998-05-00.

[8] Bennett, N.A., Sandore, B., Grunden, A.M., Miller, P.L., Integration of Primary Resource Materials into Elementary School Curricula, Proceedings of Museums and the Web 2000 Conference, Minneapolis, MN, April 2000.

[9] Yenawine, P. Visual Art and Student-Centered Discussions, Theory Into Practice, 37(4) pp. 314-21, Aut. 1998.

In the workshops, IMLS project participants will gain a basic understanding of the VTS teaching strategies and the image selection guidelines that VTS uses to ensure rich, detailed and thought-provoking discussions as students look together at the focal images. Duke will help the principal investigators select images from the project database that are especially appropriate for VTS discussions. Class discussions may use these images projected from the Web or a CD-ROM, as projected slides, or they may use actual objects in a museum gallery.

At the VTS workshops, held at the beginning of each semester during the course of the two-year project, teachers in the project will be asked to lead discussions using the VTS approach with 15-20 selected images in their own classrooms over the course of each semester. A dedicated Webboard™ discussion site, attached to the project Website, will allow Duke and the group to have regular debrief and problem-solving discussions between the actual workshop meetings. We also intend to videotape the VTS workshops and make them available on a streaming video server.

Project organizers feel that it is very important for participating librarians and museum staff members to go through the introductory VTS workshops with teachers. Their understanding of both VTS strategies and the learning theory behind them will allow these partners to fully support the classroom activities and the teachers' work. An added bonus of having the three groups take the workshops together is that VTS workshops are designed to build a strong sense of mutual respect and shared goals. It is anticipated that the workshops themselves will foster an important feeling of teamwork among participants.

Moveable Feast—Technology and Teaching Workshop

A *Moveable Feast* is a one-week summer institute held at various sites throughout Illinois tailored to meet the needs of training teaching in technology. Participating sites in Illinois include Champaign: College of Education; Bloomington; Centralia; Danville; Lake Park; Mattoon; St. Joseph-Ogden; Quincy; and Urbana. This project-based technology institute emphasizes ways to integrate technology in conjunction with Illinois and Engaged Learning standards. *A Moveable Feast* is held in June and July each summer, with teachers and others interested in educational technology participating for one week. Participants receive hands-on training in software products and productivity tools. Participants share ideas for curriculum and Illinois Learning Standards integration. As well as networking with other teachers and administrators around the state, *A Moveable Feast* is also an opportunity for them to experience demonstrations and applications of classroom information technologies.

The University of Illinois College of Education is the main organizer of the *Moveable Feast* program, but it is also facilitated by the technical coordinators of many different school districts in Illinois, four of which are partners in *Teaching with Digital Content.* Their facilitation enables teachers to share combined resources through their networked school districts. As well as receiving hard copies of all the materials used during the Moveable Feast program, participants can access online software tutorials, lesson plans and activities.

The *Moveable Feast* is also an opportunity for educators to learn about issues that they would not have time to research in the classroom, such as "Copyright Issues", and "Evaluation of Information on the Internet". Librarians and museum curators who have more day-to-day experience with these issues will share their knowledge with the teachers and educators during the *Moveable Feast* program. Again, the *Moveable Feast* will create an opportunity for all participants to experience teamwork in project development.

Museum/Library Collaboration

The project will promote a continuing channel of information through the Webboard™, software that enables real-time and asynchronous sharing of discussion, email, documents, and other digital objects, which has the potential to serve as a virtual meeting place for interaction among the museum curators, librarians, and teachers. Burns and Meehan[10] undertook extensive evaluation of educational listserv discussion groups and on-line collaboration in an electronic community of learners, which was dispersed through 29 different states and 3 countries. Although their research was specifically tailored to listserv discussions, and our community will be not quite so widespread, we believe that some of their findings apply to the online Webboard™ (a visual, more directly threaded discussion board), which we will be using for this

[10] Burns, R.C., Meehan, M.L., E-Mail Survey of the Interdisciplinary Teamed Instruction (ITI) Listserv Discussion Group: Exploratory Study of an Electronic Community of Learners. Appalachia Educational Laboratory Report, Charleston, WV, July 1996.

project. Burns and Meehan found that all participants in on-line communications were very supportive of such collaboration, particularly knowing how difficult it was for them all to get together in one place at regular intervals. They supported the inclusion of "cyberspace in the concept of professional community", and used the online collaboration frequently. Collaboration took place not so much in a particular place, but in the collaborative experience itself.

We have used an online Webboard™ in previous collaborations and propose to continue using such a system for our online collaborations during the course of this project, because we believe that it will strengthen the communication, interaction, and commitment of participants to the long-term goals of educational projects, and will allow them to develop a firm foundation from which to launch permanent collaboration of this sort. The participation of the museum and library partners in the project fits their institutional missions and their educational goals. Coordinating the contribution of digitized materials with the Illinois Learning Standards allows the museums and libraries to utilize collection materials in ways that help teachers cover mandated topics. Together, the project partners can build on previously digitized data to develop new avenues of interpretation. The museums and libraries also serve as catalysts for each other. The digitized images of one can complement the collections of the others, creating an expanding distributed digital library for classroom use.

The museum curators and librarians can assist the teachers by placing the images in a historical context, thus encouraging the teachers to implement the information in meaningful ways in the classroom. The teachers can fit the digitized information into existing lesson plans. They can use the information to create new lesson plans and to stimulate the participation of their students in creative and innovative projects.

Management Plan

The overall direction of the project shall be provided by the Principal Investigator, together with the co-Principal Investigators and the Project Coordinator. Input on both routine and critical decisions shall be sought directly from the project partner institutions on a regular basis, through electronic and face-to-face communication. Further, an advisory committee shall be appointed, that will be comprised of leaders in the areas of educational curriculum development, social science, library and information science, and museums. The committee will provide advice to the management team on the direction of the project, as well as suggestions regarding resources that have the potential of complementing and extending the collaboration within the project. The Project Coordinator shall be responsible for the overall coordination and regular communication of the project. This position shall initiate communication across the virtual community, serve as a facilitator of discussions regarding digital content and the creation of teaching materials, organize meetings and workshops, coordinate the database production and Web site development, analyze ongoing needs, and work with partners to ensure that they participate fully in the project.

The Schedule of Completion provides the details of how we feel the work of the project ought to proceed. The proposed duration of this project is twenty-four months, with a start date of 1 January, 2001, ending on 31 December 2002. The first year of the project will be devoted to developing the database and contributing digital content and metadata, as well as providing initial technology and VTS training workshops. The second year of the project will focus primarily on the use of the database in the creation of educational materials, and the promotion of extended collaboration about digital content among teachers, curators, and librarians. Evaluation, described below, will commence during the first year, but mainly be carried out during the second year.

Budget

The project budget (detail is provided in the Budget Notes) aims to make the most efficient use of funding possible while providing latitude for the types of opportunities that arise from the synergies that the collaborators are likely to develop during the course of this project. The main goals of the budget are to support the effort, both human and technological, that is required to accomplish the paradigm shift to a collaborative learning environment. Fundamental components of the budget include the granting of stipends to teachers who are developing electronic instructional materials, and mini-grants to museums and libraries to assist in a modest way with their contributions of digitized materials and metadata to the database. The budget comprises requested support from IMLS and matching contributions that amount to roughly 45% of the total grant amount (see Contributions) from the University of Illinois and partners in the form of staff time and an in-kind equipment contribution. Support from the IMLS is requested in several categories—Personnel, Consultant Fees, Travel, Materials and Equipment, and Services. Indirect cost is calculated at the negotiated rate of 24.9% on the modified total direct cost.

Personnel

We are fortunate to have a project team that represents the critical balance between the museum, library, and educational aspects of the project. The key members of the project team are discussed here. In addition, the curators and librarians that represent each of the partner institutions also bring in-depth experience with collections and users to the project.

Principal Investigator Beth Sandore is Head, Digital Imaging and Multimedia Technology Initiative program and Associate Professor at the University of Illinois at Urbana-Champaign Library. Sandore has had extensive project management and program development experience, having headed up a previous IMLS National Leadership Grant, and grants from the National Science Foundation, and private sources such as the Intel Corporation. She has served in an advisory capacity for a number of groups on imaging and technology evaluation projects, including the U. S. Department of Education, the Getty Information Institute, the Andrew Mellon Foundation, and the Oregon Historical Society.

Co-Principal Investigator Patricia L. Miller has served as the executive director of the Illinois Heritage Association, a statewide nonprofit museum service organization headquartered in Champaign, Ill., from 1982 to the present. Miller has served as a co-Principal Investigator on a previous IMLS National Leadership Grant, and a Principal Investigator and Partner on numerous grants from IMLS, the American Association for State and Local History, and other agencies. Miller is a visiting instructor in the Historical Administration Program, History Department, Eastern Illinois University, Charleston, Ill. where she has taught courses in historic preservation and museum administration since 1985. She serves as a consultant to museums, historical agencies, and preservation organizations, and has completed over twenty consultations for the Museum Assessment Program, coordinated by the American Association of Museums. In 1999 she was one of five recipients of an Award for Superior Voluntary Service as an AAM Peer Reviewer.

Co-Principal Investigator Evangeline S. Pianfetti is an Assistant Professor with the Office of Educational Technology in the College of Education at the University of Illinois at Urbana Champaign and an adjunct professor with the Department of Educational Organization and Leadership. She received her doctorate in 1998 in Educational Psychology with a research focus on Technologies for Learning and a specialization in digital video. Her research interests include visual literacy and the integration of technology in the K-12 classroom. Pianfetti, in collaboration with a team of middle school teachers was been awarded a Smithsonian Laureate Medal for innovation in classroom technology for a 1998 Apple Education Grant (Unity in Community) and a Gold Award in the Thinkquest Tomorrow's Teachers competition for their Web site, "ScienceNet: Project-based Physical Science."

Co-Principal Investigator Barbara Jones is Head of the Rare Book and Special Collections Library and Associate Professor at the University of Illinois. Jones, a PhD. in History, and an expert in First Amendment and intellectual property issues, has had extensive management and educational experience with both museum and library collections at the Minnesota Historical Society, the Fashion Institute of Technology, and New York University. Jones has been a leader in establishing an innovative instructional outreach program to bring K-12 into the Rare Book Room to study various collections.

Nuala A. Bennett is currently the (IMLS-sponsored) Digital Cultural Heritage Community Project Coordinator at the Digital Imaging and Media Technology Initiative of the University of Illinois at Urbana-Champaign. Bennett's extensive experience in both technical and programmatic aspects of digital libraries make her an excellent choice for the role of Project Coordinator in the *Teaching with Digital Content* project. Her previous experience includes Research Information Specialist with the National Center for Supercomputing Applications and Research Programmer and Project Coordinator for medical informatics projects with the Community Architectures for Network Information Systems Laboratory at the University of Illinois Graduate School of Library and Information Science.

We are requesting IMLS support to include the expertise of two consultants with extensive experience in the areas of information systems and instruction. Jim Blackaby is the Director of Internet Strategies and Information Services at Mystic Seaport in Mystic, Connecticut. Blackaby is the contact person for the Mystic Seaport Museum, and he will also serve as a consultant for technical system development. For the last twenty years, he has been working with and in museums developing information standards, working to provide access to museum information, developing strategies for integrating and sharing information, and addressing the ways that technology can serve museums. Most recently, he played key roles in developing ArtsConnectEd (http://www.artsconnected.org), a joint project of the Walker Art Center and the Minneapolis Museum of Art that integrated museum, library, and educational content to serve the needs of K-12 teachers. At the U.S. Holocaust Memorial Museum, he played a key role in the development of the Web delivery system

for the multi-media Learning Center at the museum. He is the co-editor of *The Revised Nomenclature for Museum Cataloging*, a frequent speaker at professional meetings, and an adjunct faculty member of the Cultural Resources Department of the University of Victoria in British Columbia.

Linda Duke, Director of Audience Education at the Krannert Museum of Art, University of Illinois, has agreed to serve as a second consultant who will prepare and present a series of workshops on Visual Thinking Strategies. Duke has had opportunities to work with the Visual Thinking Strategies (VTS) curriculum developed by Housen and Yenawine in both museum and school settings. She has helped to introduce this way of teaching and the research behind it to teachers, museum staffs, and museum volunteers around the country.

Evaluation

Both quantitative and qualitative approaches will be used in concert to evaluate the effectiveness of the educational programs and the usefulness of the database and the interactions with librarians and curators. The evaluation is intended to assess the results of the technology and the VTS training, as well as the impact of access to digitized materials and the information professionals who are familiar with their context. Quantitative evaluation will include a review of one-time and repeat uses and users of the database, as well as identification of patterns of use among searchers across institutions. In addition to a quantitative data analysis, a qualitative analysis of teacher and pre-service student interaction with the digital image database will help assess the efficacy of this tool. Data will be collected in the form of field notes, bi-monthly interviews (online and in person), four focus group sessions (two per year), a review of lessons plans created throughout the duration of the project, and weekly email/Webboard™ correspondences between the teachers, pre-service students and the evaluator. The objective of this qualitative evaluation will be threefold: 1) to determine how teachers and pre-service students are defining their interactions with the database, 2) to determine what improvements may be made to the database to facilitate the interaction, and 3) to determine best practice models for interacting with the database.

The field notes will include observations of the evaluator and other key project personnel as they interact with the teachers and pre-service students using the database. In particular, the field notes will focus on observed actions that seem to impede or enhance the use of the database. For example, by observing how a teacher accesses information from the database, we can identify better ways of categorizing the database or support current methods of categorization.

The focus groups and interviews will be used to ensure that the teachers and pre-service students have a voice in the evaluation progress. The focus groups will occur twice per year of the project and will bring together 3-4 teachers and/or pre-service students and allow them to discuss issues pertaining to the use of the database. In the focus groups, the participants will be asked to describe a successful interaction and one unsuccessful interaction with the database. Responses to their stories by other participants will help highlight trends in what seems to support a successful interaction and what impedes success. The one-on-one interviews will occur every two months and will permit the teachers and pre-service students to describe their journey. The interviews will be used to identify trends in usage as well as innovative ways of using the database.

The weekly correspondences will be used as a consistent measure of activity for all the participants. These weekly correspondences may take the form of email messages and/or phone calls. In particular, this measure will track not only how often the teacher or pre-service students interact with the database, but also what kinds of interactions in which they are engaging. A final measure will be the teaching materials that are developed. A subjective review of the lesson plans will determine if the use of the database played an integral role in designing the instruction and if the corresponding lesson enhances learning for the students as a result of the images in the database.

Dissemination

The project partners will utilize a variety of formats to inform the museum, library and education communities about the project. The Illinois Heritage Association will distribute information through its printed and electronic newsletter, and additional mailings to museums, libraries, and teachers throughout the state. The resources of regional offices of education and the Illinois State Board of Education will be accessed. Electronic forums, such as teachers' discussion groups, museum-l, and museum-ed will provide opportunities to acquaint people with the project. Articles in professional journals will be pursued, as well as presentations at museum and library conferences. Participant teachers will utilize in-service opportunities to share their experiences. They may develop their own Web sites. During the course of the project, as material is created for the project Web Site, support will be sought to maintain the site after the project is concluded.

Contributions

A substantial level of matching contribution accompanies this request. As indicated in the Budget Notes, a contribution that amounts to roughly 45% of the total grant amount (see Budget Notes) comes from the University of Illinois and partners in the form of staff time and an in-kind equipment contribution. Each partner institution has pledged a portion of a permanent staff member's time be devoted to project-related activities for the duration of the two-year project. In addition, the University of Illinois Digital Imaging and Media Technology Initiative will make available to the project one of its servers, to support the project database, search engine, Web site, and other applications as deemed necessary.

Sustainability

This project proposes to set into place a framework for establishing strong and lasting communication and collaboration between museums, libraries, and schools that will continue by virtue of the commitments of the institutions and the individuals involved. The project partners are already committed to developing meaningful educational programs and to utilizing advanced technology to distribute information more efficiently to educational institutions. The creation of the model in this project will facilitate their utilization of digitized data and will suggest further applications that will connect museum, library, and archival collections to specific educational needs. We have employed a strategic selection process for both partner institutions and school districts, and have included flagship institutions and leaders in the various professional communities, in an effort to encourage other institutions to begin their own collaborative work based on the results of this formative evaluation.

Technical Knowledge

The project will employ nationally-accepted standards for image creation, archiving, and delivery, as well as for metadata creation. The Dublin Core metadata elements will be used as the guiding standard for digital object description[11]. The partners will agree upon standards for image and document capture in the event that partner institutions are contributing new materials, and these shall be based on the Library of Congress minimum standards for image capture.[12] The Principal Investigator, Sandore, and the Project Coordinator, Bennett, have had extensive experience with the development and implementation of metadata and imaging standards for libraries, museums, and archives.

Information Access

Regardless of how the future forms of this collaboration evolve, through their commitment to this project, both the University of Illinois and the partners have indicated their strong interest and investment in the provision of long-term access to their materials as well as their engagement in the process of change that is involved in digital library development. All of the products that result from the *Teaching with Digital Content* project will be accessible for at least one year in its final form following the close of the project from the University of Illinois Library's Web site. Further, the information that each of the partners contributes to the online database will be provided to them in a readable database format, so that they may integrate it in flexible ways into their own information environments. As one teacher who participated in the DCHC project has indicated, access to digital content "…allows us to teach the children to research history for themselves, not just memorize names and dates."

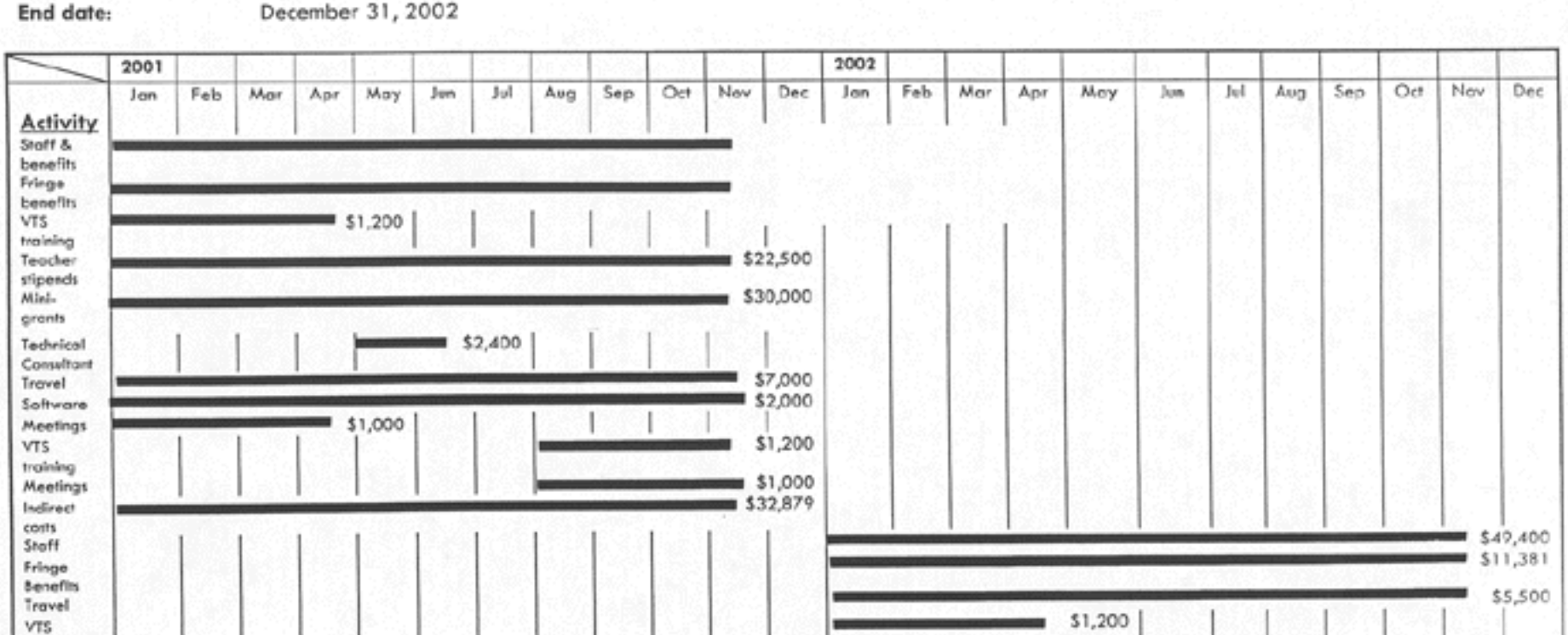
---

[11] The Dublin Core: A Simple Content Description Model for Electronic Resources, available from http://purl.org/DC/index.htm, last viewed March 30, 2000

[12] Fleischhauer, C., Digital Formats for Content Reproductions, National Digital Library Program, Library of Congress, July 13, 1998, available from http://memory.loc.gov/ammem/formats.html, last viewed March 30, 2000

Schedule of Completion:

Project Duration: 24 Months
Start date: January 1, 2001
End date: December 31, 2002



Total: $249,583

Time Frame	Activity
2001 **Spring Semester** **(Jan. – Feb.)**	• Hire staff. Order and purchase any necessary equipment • Initial in-person meeting of all core partners • Web site is established for project, including integration of database with search engine • Promote a continuing channel of communication through the use of threaded email discussion software (WebboardTM), serving as a virtual meeting place for interaction among the museum curators, librarians, and teachers. • Advisory Group is set up for duration of project. Advisors from different fields are invited to participate. • Collaborative Agreement is agreed upon and signed by all participants to ensure copyright, and all terms and conditions are set for digital access to collections. • Pre-service training element will begin. (Pre-service training element will involve students who have already been doing pre-service training for one semester – Fall 2000). • All partners review the teaching goals for Social Science in the Illinois Learning Standards. Everybody should become very familiar with the state learning goals. • Introductory concept-based training workshop workshop in the use of visual materials on Visual Thinking Strategies (VTS) is held for all project participants (extending the VTS curriculum beyond the analysis of art images to include the analysis of digitized historical artifacts and documents).
(Mar. – Apr.)	• Teachers submit lesson plans, including relevant state goals, identifying primary resources that might be usable in their curriculum development, or to which they would like to have access. • Museum curators and librarians discuss curriculum units, and start discussion of innovative collaboration of collections • All participants examine, understand and utilize the Dublin Core formats being used for indexing and description of artifact images, as well as a basic understanding of thesauri that are used among the cross-discipline professions. Training workshop provided if necessary.
(May – Jun.)	• Museum and library partners contribute digitized primary source materials and metadata to database, with accompanying Dublin Core metadata formatted according to national standards. Descriptive artifact and image data is developed, including integration of The Illinois state-mandated Learning Standards for K-12 institutions. Subject coverage of database is broadened - museum curators, librarians, and archivists identify materials that have already been digitized or will need to be digitized for inclusion in The expanding digital repository. • Curators and librarians develop and make available educational materials using primary resources. They will assist teachers by placing digital objects in their historical context, utilizing innovative technologies to present this information and by locating and helping teachers locate and utilize other digital resources that are freely accessible in electronic form. • All partners review materials and collaboratively discuss new additions to the database. • Focus groups formed to discuss initial evaluation of project. Qualitative evaluation efforts start assessing the degree of integration of VTS and technology training.
Summer Session **(Jun. – Jul.)**	• Participants will continue discussion of VTS using threaded email. Participants will start utilizing new technologies in innovative ways, integrating VTS concepts into instructional material design. • Introduce technology training workshops – week-long Moveable Feast program available to teachers, curators, librarians. • Introduce teachers to using digital cultural heritage materials in curriculum planning —

collaborate with outreach programs (preservice training, Moveable Feast program). Teachers outline and create new curriculum materials utilizing digitized primary source materials, supplementing existing materiaIs.

- Continuous on-line and in-person (particularly at workshops) discussions of how to implement reliable methods for integrating content into teaching lessons and learning guides.
- Continuous development of database content from museums and libraries.

Fall Semester (Aug. – Oct.)

- Workshop on Visual Thinking Strategies for all project participants.
- Museum and library partners continue contributing digitized primary source materials and metadata to database, using Dublin Core metadata.
- Museums, libraries and archives will determine any further steps necessary to make the database usable by the teachers. Identification of innovative technology-based methods for utilization of digital materials. Curators and librarians strive to assist teachers by placing digital objects in historical context.
- Curators and librarians develop and make available educational materials using primary resources.
- Teachers review existing curriculum units to determine how to supplement with digitized primary source materials.
- Teachers develop curriculum units innovatively to include digitized materials.

(Nov. – Dec.)

- Outcome evaluation strategies are initiated – initial reporting of effectiveness of new applications; outcome evaluation of targeted training; evaluation of access to digitized materials and metadata; evaluation of virtual community.
- Focus groups continue evaluation of project, through on-line discussions.

2002
Spring Semester (Jan. – May)

- Workshop on VTS for all participants. Continuous assessment of use of VTS with image materials in classroom.
- Strategies identified to improve effective use of new applications in classrooms.
- Extensive evaluation efforts continue. Qualitative evaluation efforts commence to assess the degree of integration of VTS and technology training into innovative curriculum development.
- Focus groups continue evaluation of project.
- Database use is reviewed — users are evaluated (methods such as on-line surveys, etc.), use of database is evaluated — onetime and/or repeated use. Patterns of use among all users are established.

Summer Session (Jun. – Aug.)

- Technology training workshops (Moveable Feast) continue for all participants. Curators and librarians learn how to develop innovative collection materials; teachers make innovative use of digitized materials in classroom.

Fall Semester (Aug. – Dec.)

- VTS Workshop for all participants. All participants review use of VTS in classroom settings.
- Final in-person meeting for all participants. Quantitative and qualitative evaluation of the virtual community is reviewed. Recommendations of project participants are reviewed.

Project Budget Form

SECTION 1: DETAILED BUDGET

Year 1 - Budget Period from 01/01/2001 to 12/31/2001

Name of Applicant Organization Board of Trustees of the University of Illinois

IMPORTANT! READ INSTRUCTIONS ON PAGES 2.3-2.4 BEFORE PROCEEDING.

SALARIES AND WAGES (PERMANENT STAFF)

NAME/TITLE	No.	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(s) (IF APPLICABLE)	TOTAL
B. Sandore	( )					
B. Jones	( )					
E. Pianfetti	( )					
		TOTAL SALARIES AND WAGES $				

SALARIES AND WAGES (TEMPORARY STAFF HIRED FOR PROJECT)

NAME/TITLE	No.	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(s) (IF APPLICABLE)	TOTAL
Project Director	( )	12 months				
SummerSupport/Pianfetti	( )					
		TOTAL SALARIES AND WAGES $				

FRINGE BENEFITS

RATE		SALARY BASE	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
23.04	% of $					
Permanent Staff	% of $					
Summer Support/Pianfetti	% of $					
		TOTAL FRINGE BENEFITS $				

CONSULTANT FEES

NAME/TYPE OF CONSULTANT	RATE OF COMPENSATION (DAILY OR HOURLY)	NO. OF DAYS (OR HOURS) ON PROJECT	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
(10) Museum/Library partners	$35/hr. 2 hrs./week	46 weeks			32,200	32,200
(15) School partners	$35/hr. 2 hrs/week	40 weeks			42,000	42,000
Technical Consultant	$600/day	6 days	3,600			3,600
VTS Workshop Consultant	$300/day	15 days	4,500			4,500
(15) Teacher stipends	$1,500 each		22,500			22,500
(10) Museum/library mini-grants	$3,000 each		30,000			30,000
		TOTAL CONSULTANT FEES $	60,600		74,200	134,800

TRAVEL

FROM/TO	NUMBER OF: PERSONS	DAYS	SUBSISTENCE COSTS	TRANSPORTATION COSTS	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
IMLS conference	2	3	1,000	1,000	2,000			2,000
IMLS conference	2	3	1,000	1,000	2,000			2,000
Consultant	1	4	500	1,000	1,500			1,500
Other professional conference	2	4	500	1,000	1,500			1,500
			TOTAL TRAVEL COSTS $		7,000			7,000

Project Budget Form

SECTION 1: DETAILED BUDGET CONTINUED

Year 1

MATERIALS, SUPPLIES AND EQUIPMENT

ITEM	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
Software - programming, Webboard™, etc.		4,000			4,000
Hardware - video display unit, & accompanying laptop PC, video digitizing peripherals			25,000		25,000
TOTAL COST OF MATERIAL, SUPPLIES, & EQUIPMENT $		4,000	25,000		29,000

SERVICES

ITEM	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
Publicity, meetings, video downlinks, etc.		2,000			2,000
TOTAL SERVICES COSTS $		2,000			2,000

OTHER

ITEM	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
TOTAL OTHER COSTS $					

TOTAL DIRECT PROJECT COSTS $	132,044	36,038	74,200	242,282

INDIRECT COSTS

Select either item A or B and complete C. (See section on Indirect Costs, pages 2.3-2.4.)

Applicant organization is using:

- A. an indirect cost rate which does not exceed 20% of modified total direct costs
- B. an indirect cost rate negotiated with a Federal agency (*copy attached*)

Office of Naval Research
Name of Federal Agency

6/24/99
Expiration Date of Agreement

C. Rate base(s) Amount(s)

24.9 % of $ 132,044 - $32,879 (IMLS)
24.9 % of $ 11,038 - $2,748 (Applicant)
____ % of $ ____

Consultants (match) not included in base – 3rd party contributing

TOTAL INDIRECT COSTS $ 35,627

Project Budget Form

SECTION 1: DETAILED BUDGET

Year 2 - Budget Period from 01/01/2002 to 12/31/2002

Name of Applicant Organization Board of Trustees of the University of Illinois

IMPORTANT! READ INSTRUCTIONS ON PAGES 2.3-2.4 BEFORE PROCEEDING.

SALARIES AND WAGES (PERMANENT STAFF)

NAME/TITLE	No.	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(s) (IF APPLICABLE)	TOTAL
B. Sandore						
B. Jones						
E. Pianfetti						
		TOTAL SALARIES AND WAGES $				

SALARIES AND WAGES (TEMPORARY STAFF HIRED FOR PROJECT)

NAME/TITLE	No.	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(s) (IF APPLICABLE)	TOTAL
Project Director		12 months				
SummerSupport/Pianfetti						
		TOTAL SALARIES AND WAGES $				

FRINGE BENEFITS

RATE		SALARY BASE	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
23.04	% of $					
Summer Support/Pianfetti	% of $					
	% of $					
		TOTAL FRINGE BENEFITS $				

CONSULTANT FEES

NAME/TYPE OF CONSULTANT	RATE OF COMPENSATION (DAILY OR HOURLY)	NO. OF DAYS (OR HOURS) ON PROJECT	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
(10) Museum/Library Partners	$35/hr. 2 hrs./week	46 weeks			32,200	32,200
(15) School partners	$35/hr. 2 hrs/week	40 weeks			42,000	42,000
		TOTAL CONSULTANT FEES $			74,200	74,200

TRAVEL

FROM/TO	NUMBER OF: PERSONS	DAYS	SUBSISTENCE COSTS	TRANSPORTATION COSTS	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
IMLS conference	2	3	1,000	1,000	2,000			2,000
IMLS conference	2	3	1,000	1,000	2,000			2,000
Consultant	1	2	500	1,000	1,500			1,500
			TOTAL TRAVEL COSTS $		5,500			5,500

Project Budget Form

SECTION 1: DETAILED BUDGET CONTINUED

Year 2

MATERIALS, SUPPLIES AND EQUIPMENT

ITEM	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
TOTAL COST OF MATERIAL, SUPPLIES, & EQUIPMENT $					

SERVICES

ITEM	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
Publicity, Meetings, etc.		2,000			2,000
	TOTAL SERVICES COSTS $	2,000			2,000

OTHER

ITEM	METHOD OF COST COMPUTATION	IMLS	APPLICANT	PARTNER(S) (IF APPLICABLE)	TOTAL
	TOTAL OTHER COSTS $				

TOTAL DIRECT PROJECT COSTS $	**68,282**	**10,308**	**74,200**	**152,790**

INDIRECT COSTS

Select either item A or B and complete C. (See section on Indirect Costs, pages 2.3-2.4.)

Applicant organization is using:

- A. an indirect cost rate which does not exceed 20% of modified total direct costs
- B. an indirect cost rate negotiated with a Federal agency (*copy attached)*

Office of Naval Research
Name of Federal Agency

6/24/99
Expiration Date of Agreement

C. Rate base(s)

			Amount(s)
24.9	%	of $	68,282 - $17,002 (IMLS)
24.9	%	of $	10,308 - $2,567 (Applicant)
	%	of $	

TOTAL INDIRECT COSTS $ 19,569

Project Budget Form

SECTION 2: SUMMARY BUDGET

Name of Applicant Organization Board of Trustees of the University of Illinois

IMPORTANT! READ INSTRUCTIONS ON PAGES 2.3-2.4 BEFORE PROCEEDING.

DIRECT COSTS	IMLS	Applicant	Partner(s) (if applicable)	Total
SALARIES & WAGES				
FRINGE BENEFITS				
CONSULTANT FEES	60,600	____	148,400	209,000
TRAVEL	12,500	____	____	12,500
MATERIALS, SUPPLIES & EQUIPMENT	3,500	25,000	____	28,500
SERVICES	4,000	____	____	4,000
OTHER	____	____	____	____
AMOUNT	$ 199,826	$ 46,346	$ 148,400	$ 394,572
INDIRECT COSTS *	$ 49,757	$ 4,982	$ ____	$ 54,739
			TOTAL PROJECT COSTS	$ 449,311

*If you do not have a current Federally negotiated rate, your indirect costs must appear in the Applicant or Partner columns only.

AMOUNT OF CASH – MATCH	$ 174,728	
AMOUNT OF IN-KIND CONTRIBUTIONS – MATCH	$ 25,000	
TOTAL AMOUNT OF MATCH (CASH & IN-KIND CONTRIBUTIONS)		$ 199,728
AMOUNT REQUESTED FROM IMLS		$ 249,583
PERCENTAGE OF TOTAL PROJECT COSTS REQUESTED FROM IMLS (MAY NOT EXCEED 50% IF REQUEST EXCEEDS $250,000 – RESEARCH PROJECTS EXCEPTED, SEE PAGE 1.16)		55 %

Have you received or requested funds for any of these project activities from another Federal agency?
(Please check one) ☐ Yes ☒ No

If yes, name of agency ____

Date of application ____ or award ____ Amo

Budget Notes

Request *from IMLS:*

Personnel

We are requesting support to fund the salary and fringe benefits for a Project Coordinator, who shall direct the overall operation of the project and have chief responsibility for planning and organizing activities, development and enhancement of the project Web site and Webboard, facilitating communication among project participants, travel to assist partner institutions, and preparing publications and presentations to report on and disseminate information about the project. We feel that a position with a coordinating role is critical to this project since it involves a continual stream of communication between three different types of institutions. The salary is commensurate with the level of experience expected for an individual in a leadership role such as this. In addition, we are requesting one month of summer salary and fringe benefits in years 1 and 2 for Prof. Evangeline Pianfetti, a co-Principal Investigator, who will be carrying out the evaluation component of the project along with P1 Sandore, as well as organizing the Moveable Feast technology training workshops. Finally, we have included a request for hourly wages over the two-year project that will be dedicated to supporting the technical needs of the project participants in the areas of programming, software training, installation and trouble-shooting, and equipment set-up and usage.

Consultants, Stipends, and Mini-Grants

Two types of consulting—professional development and technical—are requested in order to provide us with expert assistance on two components of the project. We have requested up to fifteen days of consulting support for Linda Duke to develop and present four Visual Thinking Strategies workshops for the museums, libraries, and teachers. While the database will be supported internally by the University of Illinois, we feel that the project will benefit greatly from technical advice regarding the ongoing support of the database, search engine, and interface. To that end we are requesting support for up to six days of professional consulting to call James Blackaby in for advice in this area, up to twice in Year 1 and once in Year 2.

To recognize their commitment of permanent staff time, and the sharing of digitized resources (museums and libraries) and curriculum materials (teachers, curators, and librarians) with the project, and publicly through the project Web site, we are requesting assistance in the form of $1500 stipends for each teacher, and $3000 mini-grants for each museum or library participant.

Travel

IMIS NLG guidelines require that collaborative museum and library projects request at least $4000 in each year in order to support the cost of attendance at IMLS-sponsored activities related to the grant. We anticipate that this base of support will enable at least two people per year to attend IMLS-sponsored activities. In addition, we are requesting an addition $2000 in Year 1 (for a total of $7000 in Year 1 to support consultant travel), and an additional $1500 in Year 2 (for a total of $5500 in Year 2) to support consultant travel. Since this is a collaborative project with many partners, there will be numerous opportunities to disseminate the project results, and it is anticipated that the partners institutions will make additional in-kind contributions to support travel for this purpose.

Materials, Supplies, and Equipment

Support for the purchase and maintenance of software, supplies and peripheral equipment is requested. It should be noted that the total amount requested over the two-year grant period ($3500) represents a small fraction of the actual costs of supporting the software and hardware of the project (operating system licenses, web server software, other server application software). The University of Illinois will provide $25,000 for equipment as part of the cost share. This will be used to purchase items such as video display units and video digitizing equipment. We have requested support only for specific applications that the project will require. Firstly, we intend to either purchase or contract with an existing vendor for the use of the Webboard software, whichever appears to offer the most cost-effective solution at the start of the grant period. We have budgeted for the purchase of that software because the cost of contracting with a vendor is currently in flux. During the course of the grant period it will also be necessary to upgrade the software that supports the project database.

Services

In order to facilitate training workshops and project meetings, as well as video downlinks, we request support for contractual services. We intend to video tape, as well as provide a video uplink site for each of the four Visual Thinking Strategies workshops, at a cost of approximately $3000 to secure these services for the four workshops. The remaining support will be used for meeting arrangements and publicity materials such as flyers and posters used at conferences and meetings that describe the project.

Contributions from Partner Institutions:

Perhaps the most valuable resource in "Teaching with Digital Content" is the time and effort that has been pledged from the partners in this grant. Each of ten museums and libraries, and four school districts with up to fifteen teachers have pledged to commit two hours per week of permanent staff member's time for the two-year duration of the project as a matching contribution, for a total of ( ). This amount also includes a contribution of 5% of the P1 and co-PI's time in both years. Further, the University of Illinois Library's Digital Imaging and Media Technology Initiative will host the project Web site, database, and search engine on its servers, as well as related applications for the project.